OIPE

#1/2

RAW SEQUENCE LISTING DATE: 11/29/2000 PATENT APPLICATION: US/09/713,098 TIME: 09:05:34

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Output Set: N:\CRF3\11292000\1713098.raw

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3 <110> APPLICANT: Zlot, Constance H.
              Adema, Gosse J.
              Figdor, Carl
      5
              Phillips, Joseph H.
     8 <120> TIFLE OF INVENTION: Mammalian Genes; Related Reagents and Methods
     10 <130> FILE REFERENCE: DX1051Q
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/713,098
C--> 13 <141> CURRENT FILING DATE: 2000-11-14
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                                                                               105
     32 Met Gly Ile Trp Thr Ser Gly Thr Asp Ile Phe Leu Ser Leu Trp Glu
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     33 1
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     36 Ile Tyr Val Ser Pro Arg Ser Pro Gly Trp Met Asp Phe Ile Gin His
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     39 ttg gga gtt tgc tgt ttg gtt gct ctt att tca gtg ggc ctc ctg tct
40 Leu Gly Val Cys Cys Leu Val Ala Leu Ile Ser Val Gly Leu Leu Ser
41 35 40 45
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      44 Val Ala Ala Cys Irp Phe Leu Pro Ser Ile Ile Ala Ala Ala Ala Ser
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      45 50
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     48 Trp Ile Ile Thr Cys Val Leu Cys Cys Ser Lys His Ala Arg Cys 49 65 70 75 80
      51 ttt att ett ett gte ttt ete tet tgt gge etg egt gaa gge agg aat
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      52 Phe Ile Leu Leu Val Phe Leu Ser Cys Gly Leu Arg Glu Gly Arg Asn
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56 Ala Leu Ile Ala Ala Gly Thr Gly Ile Val Ile Leu Gly His Val Glu
                                                                                393
                                          105
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      59 aat att tit. cac aac til aaa ggt etc eta gat ggt atg act ige aac
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                                                                                441
      60 Asn Tle Phe His Asn Phe Lys Gly Leu Leu Asp Gly Met Thr Cys Asn
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## ENTERED

DATE: 11/29/2000 TIME: 09:05:34 RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/713,098

Input Set : A:\1051Q.app
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73				165					170					1.75	022	633
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76 S€	er Pr	o Ser		Val.	Leu	Glu	Ala	GIn	Leu	ASII	ASP	ser	190	Grà	610	
77			180					1.85						++0	tee	681.
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80 Va	ıl Le	u Ser	Val	Leu	Tyr	GIn	Met	АТа	THE	1111	1111	205	Val	Leu	JCI	
81		195					200	L 4+		(*****	ot t		ete	atc	cta	729
83 to	cc ct	g ggt	caq	aaq	cta	CLL	900	Dho	Ala.	499	Lan	cor	Ten	Val	Len	
		u Gly	GLn	Lys	L.eu	Leu	A.I.d	PHE	ALG	GLY	220	JCL	Lou			
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		y Thr	GLY	Leu	230	Mer	Lys	ALG	ric	235	0.1		~,~		240	
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91 aa	ag ta	r Glu	aac	Tlo	Tur	Tlo	Thr	Arσ	Gin	Phe	Val	Gln	Phe	Asp	Ğlu	
	ув гу	r. Gru	ASII	245	тут	11.0	1 11.4	111 9	250					255		
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100 6	Glu A	rg Ar	a Lvs	TVI	Val	116	Tle	e Pro	Thi	: Phe	e Trp	Pro	Th:	r Pr	o Lys	
101		27	5				280	)				28:	)			
103	gaa a	gg aa	a aac	cto	999	cto	ttt	t.t.c	cto	000	c ata	ctt	: at	c ca	t ctc	969
104	Glu A	rg Ly	s Ası	Leu	G15	Let	ı Phe	e Phe	Let	ı Pro	o Ile	e Lei	1 I.	e Hi	s Leu	
105						295	;				300	١				
1.0.		90				2,7.	,									3017
107	tgc a	to to	g gte	g ctg	, ttt	gea	act	gta	a gal	t ta	t cto	cte	g ta	t cg	g ctc	1017
107	tgc a Cys I	90 itc tg le Tr	g gte p Va.	g cto	ı Pho	gca Ala	act	t gta a Val	a gal L Ası	э Ту:	t cto r Lei	cte	g ta ı Ty	t cg	g rien	1017
108	Cys I	itc tg	p Va.	l Lei	1 Pho 310	gca Ala	get Ala	a Val	L Ası	э Ту: 31	t ctq r Lei 5	g cte	1 ТУ	t cg r Ar	320	
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108 109 111 112	Cys I 305 att t Ile I	itc tg le Tr itc tc he Se	p Va. a gte r Val	L Let g ago L Ser 325	Pho 310 a a a g	g cag g cag g cag	get Ala J ttt I Phe	a Val c cas e Gli	L Asp a age a Se. 330	o Ty: 31 c tt c Le	t etg r Lei 5 g eca u Pro	g cto 1 Lei 1 ggo 5 Gl	ı Ty. g tt y Ph	t cg r Ar t ga e G1 33	320 g gtt u Val	1065
108 109 111 112 113	Cys I 305 att t Ile I	ite tg The Tr ttc tc The Se	p Va. a gto r Val	L Let g ago l Ser 325	Pho 310 a a a g Lys	g cag s Gli	get Ala J tti I Phe	a Val E cas e Gli a cas	L Asp a age a Se. 330	o Ty: 31 c tt c Le: 0 a ac	t cto r Leu 5 g cca u Pro t caa	g ctg i Lei a gge o Gl; a ga	ı Ty g tt y Ph t at	t cg r Ar t ga e Gl 33 t at	320 g gtt u Val 5 c cat	
108 109 111 112 113 115 116	Cys I 305 att t Ile I	itc tg le Tr itc tc he Se	p Va. a gte r Va: a cte s Le	d ago d ser 325 g cao	Pho 310 a a a g Lys	g cag s Gli	get Ala J tti I Phe	a Val c cas a Gli a cas s Gli	a age n Se. 330 a gge	o Ty: 31 c tt c Le: 0 a ac	t cto r Leu 5 g cca u Pro t caa	g ctg i Lei a gge o Gl; a ga	ry. g tt y Ph t at p Il	t cg r Ar t ga e Gl 33 t at	320 g gtt u Val 5 c cat	1065
108 (109 111 112 113 115 116 117	Cys I 305 att t Ile E cac t His I	ite tg The Tr tto to The Se ttg aa	p Va. a gte r Va. a cte s Lee	d Lev g ago l Ser 325 g cao u His	Pho 310 aag Lys 5 ggs Gly	g cae Gli g cae g cae g Cae g Cae	get Ala Ala J tti Phe J aaa J Lys	t cas e Gli a cas s Gli 345	a age a Se. 330 a gge a Gly	o Ty: 31 c tto r Le: 0 a ac y Th	t cto r Leu 5 g cca u Pro t caa r Glu	g cto Leo a ggo o Gly a ga n Asp	g tt g tt g Ph t at p Il 35	t cg r Ar t ga e Gl 333 t at e Il	g Leu 320 g gtt u Val 5 c cat e His	1065
108 (109 111 112 113 115 116 117 119 119 119 119 119 119 119 119 119	Cys I 305 att t Ile I cac t His I	ite tg le Tr ite te che Se itg aa Leu Ly	p Va. a gte r Va: a cte s Lee 34	g ago l Sen 325 g cao u His	Photostal Photos	g cag g cag g cag g cag g cag g cag	get Ala Ala J tti Pho G aaa J Lys	a Val a caa a Gli a caa a Gli 345 g tti	a age n Se. 330 a gga n Gly 5	o Ty: 31 c ttc c Le c a ac y Th a cc	t ctor Leur 5 5 g cca u Pro t caa c Gli	g ctg i Lei a gge o Gl; a ga n Asp	ttat y Ph tat p Il 35 tat	t cgr Ar t ga e Gl 333 t at e Il 0	g Leu 320 g gtt u Val 5 c cat e His	1065
108 (109 111 112 113 115 116 117 119 120	Cys I 305 att t Ile I cac t His I	tte tg The Tr tte te The Se ttg aa Leu Ly	p Va. a gtc r Va. a ctc s Lec 34 c tt	g ago l Sen 325 g cao u His	Photostal Photos	g cag g cag g cag g cag g cag g cag	g got a Ala g tti pho g aaa g tys t gto r Val	t cate Glr a cate Glr a cate Glr 345 g ttt	a age n Se. 330 a gga n Gly 5	o Ty: 31 c ttc c Le c a ac y Th a cc	t ctor Leur 5 5 g cca u Pro ct caa c Gli	g ctg a gge b Gl; a gan a San a Cy;	y tt y Ph t at p Il 35 t at	t cgr Ar t ga e Gl 333 t at e Il 0	g Leu 320 g gtt u Val 5 c cat e His	1065
108 109 111 112 113 115 116 117 119 120 121	Cys I 305 att t Ile I cac t His I gat t	ite tg The Tr tto to Phe Se ttg aa Leu Ly tot to Ger Se	p Va. a gtor va. a ctor s Leo 34 c ttor Pho	g ago 1 Ser 325 g cao u His 0 - t aat e Asr	Pho 31( 31( aage Lys 5 gga Gly L at.a	g cas g cas g cas g cas g cas Gli a gas / Gli a to	g da Ala g tti g tan Phe g aaa g Lys t gto r Vai	t care Glr a care 345 g ttt	L Asp a age a se. 330 a ggo a Gly 5 t gas	o Ty: 31 c tt c tc c a ac y Th a cc u Pr	t cts r Leu 5 g cca u Pro t caa r Gli c aac	g ctg a gge b Gl; a gan a gan a Asp c tg a Cy; 36	t tty Ph t at p Il 35 t at s Il	t cg r Ar t ga e Gl 333 t at e Il o cc	g Leu 320 g gtt u Val 5 c cat e His a aaa	1065
108 109 111 112 113 115 116 117 119 120 121 123	Cys I 305 att t Ile I cac t His I gat t Asp S	tte tg ite tc tc tc tc tc ta a tt tg tt tt tt tc	p Va. a gtor va. a ctor s Leo 34 c ttor pho 5	g agod Sen 325 g cao His	Pho 31( aag Lys 5 g gga s Gly L ata	g gca Ala ) g cag g cag g cag Gli a gag Gli a to a to	g gct g Ala g ttt g aaa g aaa g aaa g aaa tys t gtc y Vai aaaa	t case Glr a case Glr 345 g ttt 1 Pho	a age a se. 330 a ggs b Gl; 5 c gas	o Ty: 31 c tt c Le c a ac y Th a cc u Pr	t cts r Leu 5 g cca u Pro t caa r Gli c aaa o Asi	g ctg a ggg a ga a ga a Asp c tg a Cy a ga a cag	g tt g tt g Ph t at p Il 35 t at 5 t gt	t cgr Ar t ga e G1 33 t at e I1 0 c cc e Pr	320 g gtt u Val 5 c cat e His a aaa o Lys	1065 1113 1161
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108 109 111 112 113 115 116 117 119 120 121 123 124 125	Cys I 305 att t Ile I cac t His I gat t Asp S cca a Pro I	tte tg The Tr tte te Phe Se ttg aa Leu Ly tet te Ger Se aaa tt Lys Ph	p Va. a gte r Va. a cte s Lee 34 c tt. r Phe c ct. c ct. e Lee	g ago g ago l Sen 325 g cao u His 0 · t aat e Asi	Photostal Photos	g case Alas ) g case Gli a gas Gli a tor a se. t gas r Gli 37	g get g ttt g ttt g aaa g aaa tys t gtc Vai 360 g acc u Th.	t case Glr a case Glr 345 g ttf l Pho c tge r Trp	a agent Se. 330 a ggent Gly 5 b gare ggt gg gt ya	o Ty: 31 c ttc c tec a ac y Th a cc u Pr t cc	t cto 5 g cca u Pro t caa r Gli c aac o Asi t cto o Lei	g ctg I Leu a ggo Gly a ga a Asp Cy: 36 c ag u Se	g tt g tt y Ph t at p Il 35 t at s Il f gt r Va	t cg r Ar t ga e Gl 33 t at e Il 0 c cc e Pr t at	g Leu 320 g gtt u Val 5 c cat e His a aaa to Lys t ctt	1065 1113 1161
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							tgac	jayar	200 0	yaçı.			uge	Juciu	_		
		Ser	Al.a	Asp	LŲS												
149	465					470		4	- ~~.	+ .	· a a t	2++4	aa taa	-ca -	cataa	atagag	1557
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174	<40 Met	0> S Gly	EQUE1 Ile	NCE: Trp	2 Th.c 5	Ser			Gly	10				Tle	Gln		
174 175 177	<40 Met 1 Ile	0> S: Gly Tyr	EQUEI Ile Val	Trp Ser	Thr 5 Pro	Ser Arg	Ser	Pro	Gly 25	10 Trp	Met	Asp	Phe	11e 30	Gln	His	
174 175 177	<40 Met 1 Ile	0> S: Gly Tyr	EQUEI Ile Val	Trp Ser	Thr 5 Pro	Ser Arg	Ser	Pro Ala	Gly 25	10 Trp	Met	Asp	Phe	11e 30	Gln	His	
174 175 177 178 180	<40 Met l lle Leu	0> S Gly Tyr Gly	EQUEI Ile Val Val	NCE: Trp Ser 20 Cys	Thr 5 Pro Cys	Ser Arg Leu	Ser Val	Pro Ala 40	Gly 25 Leu	10 Trp	Met Ser	Asp Val	Phe Gly 45	Ile 30 Leu	Gln Leu	His Ser	
174 175 177 178 180	<40 Met l lle Leu	0> S Gly Tyr Gly	EQUEI Ile Val Val	NCE: Trp Ser 20 Cys	Thr 5 Pro Cys	Ser Arg Leu	Ser Val	Pro Ala 40	Gly 25 Leu	10 Trp	Met Ser	Asp Val Ala	Phe Gly 45	Ile 30 Leu	Gln	His Ser	
174 175 177 178 180 181 183	<40 Met 1 Ile Leu Val	0> S: Gly Tyr Gly Ala	EQUEI Ile Val Val 35 Ala	Trp Ser 20 Cys	Thr 5 Pro Cys Trp	Ser Arg Leu Phe	Ser Val Leu 55	Pro Ala 40 Pro	Gly 25 Leu Ser	10 Trp Ile	Met Ser Ile	Asp Val Ala 60	Phe Gly 45 Ala	Tle 30 Leu Ala	Gln Leu Ala	His Ser Ser	
174 175 177 178 180 181 183	<40 Met 1 Ile Leu Val	0> S: Gly Tyr Gly Ala	EQUEI Ile Val Val 35 Ala	Trp Ser 20 Cys	Thr 5 Pro Cys Trp	Ser Arg Leu Phe	Ser Val Leu 55	Pro Ala 40 Pro	Gly 25 Leu Ser	10 Trp Ile	Met Ser Ile Ser	Asp Val Ala 60	Phe Gly 45 Ala	Tle 30 Leu Ala	Gln Leu	His Ser Ser Cys	
174 175 177 178 180 181 183 184 186	<40 Met 1 Ile Leu Val Irp	0> S: Gly Tyr Gly Ala 50	EQUENT ILE  Val.  Val.  35 Ala	Trp  Ser 20 Cys Cys	Thr 5 Pro Cys Trp	Ser Arg Leu Phe Val	Ser Val Leu 55 Leu	Pro Ala 40 Pro Leu	Gly 25 Leu Ser Cys	10 Trp Ile Ile Cys	Met Ser Ile Ser 75	Asp Val Ala 60 Lys	Phe Gly 45 Ala His	Ile 30 Leu Ala	Gln Leu Ala Arg	His Ser Ser Cys 80	
174 175 177 178 180 181 183 184 186	<40 Met 1 Ile Leu Val Irp	0> S: Gly Tyr Gly Ala 50	EQUENT ILE  Val.  Val.  35 Ala	Trp  Ser 20 Cys Cys	Thr 5 Pro Cys Trp	Ser Arg Leu Phe Val	Ser Val Leu 55 Leu	Pro Ala 40 Pro Leu	Gly 25 Leu Ser Cys	10 Trp Ile Ile Cys	Met Ser Ile Ser 75	Asp Val Ala 60 Lys	Phe Gly 45 Ala His	Ile 30 Leu Ala	fin Leu Ala Arg	His Ser Ser Cys 80	
174 175 177 178 180 181 183 184 186 187	<40 Met 1 Ile Leu Val Irp 65 Phe	0> S. Gly Tyr Gly Ala 50 Ile	Val. Val. 35 Ala Ile	NCE: Trp Ser 20 Cys Cys Thr	Thr 5 Pro Cys Trp Cys Val	Ser Arg Leu Phe Val 70 Phe	Ser Val Leu 55 Leu Leu	Pro Ala 40 Pro Leu Ser	Gly 25 Leu Ser Cys	10 Trp Ile Ile Cys Gly 90	Met Ser Ile Ser 75 Leu	Asp Val Ala 60 Lys Arg	Phe Gly 45 Ala His	Tle 30 Leu Ala Ala Gly	Leu Ala Arg Arg 95	His Ser Ser Cys 80 Asn	
174 175 177 178 180 181 183 184 186 187	<40 Met 1 Ile Leu Val Irp 65 Phe	0> S. Gly Tyr Gly Ala 50 Ile	Val. Val. 35 Ala Ile	NCE: Trp Ser 20 Cys Cys Thr	Thr 5 Pro Cys Trp Cys Val	Ser Arg Leu Phe Val 70 Phe	Ser Val Leu 55 Leu Leu	Pro Ala 40 Pro Leu Ser	Gly 25 Leu Ser Cys Cys	10 Trp Ile Ile Cys Gly 90	Met Ser Ile Ser 75 Leu	Asp Val Ala 60 Lys Arg	Phe Gly 45 Ala His	Tle 30 Leu Ala Ala Gly	Leu Ala Arg Arg 95	His Ser Ser Cys 80 Asn	
174 175 177 178 180 181 183 184 186 187 189 190 192	<40 Met 1 Ile Leu Val Irp 65 Phe	0> S: Gly Tyr Gly Ala 50 Ile Ile	EQUENT ILE  Val.  Val.  35 Ala ILE  Leu ILE	NCE: Trp Ser 20 Cys Cys Thr Leu Ala	Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe	Ser Val Leu 55 Leu Leu Thr	Pro Ala 40 Pro Leu Ser	Cly 25 Leu Ser Cys Cys Ile 105	Ile Ile Cys Gly 90 Val	Met Ser Ile Ser 75 Leu Ile	Asp Val Ala 60 Lys Arg	Phe Gly 45 Ala His Glu	Tle 30 Leu Ala Ala Gly His	Leu Ala Arg Arg 95 Val	His Ser Ser Cys 80 Asn	
174 175 177 178 180 181 183 184 186 187 189 190 192	<40 Met 1 Ile Leu Val Irp 65 Phe	0> S: Gly Tyr Gly Ala 50 Ile Ile	EQUENT ILE  Val.  Val.  35 Ala ILE  Leu ILE	NCE: Trp Ser 20 Cys Cys Thr Leu Ala	Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe	Ser Val Leu 55 Leu Leu Thr	Pro Ala 40 Pro Leu Ser Gly	Gly 25 Leu ser Cys Cys Ile 105 Leu	Ile Ile Cys Gly 90 Val	Met Ser Ile Ser 75 Leu Ile	Asp Val Ala 60 Lys Arg	Phe Gly 45 Ala His Glu Gly Met	The 30 Leu Ala Ala Gly His 110 Thr	Leu Ala Arg Arg 95	His Ser Ser Cys 80 Asn	
174 175 177 178 180 181 183 184 186 187 190 192 193 195	<pre>&lt;40 Met     1 Ile Leu Val Irp     65 Phe Ala Asn</pre>	0> S: Gly Tyr Gly Ala 50 Tle Ile Leu	Val. Val. 35 Ala Ile Leu Ile Phe	Ser 20 Cys Cys Thr Leu Ala 100 His	Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe Gly	Ser Val Leu 55 Leu Leu Thr	Pro Ala 40 Pro Leu Ser Gly Gly 120	Cly 25 Leu Ser Cys Cys Ile 105 Leu	Ile Ile Cys Gly 90 Val	Met Ser Ile Ser 75 Leu Ile Asp	Asp Val Ala 60 Lys Arg Leu Gly	Phe Gly 45 Ala His Glu Gly Met 125	Tle 30 Leu Ala Ala Gly His 110	Leu Ala Arg Arg 95 Val	His Ser Ser Cys 80 Asn Glu	
174 175 177 178 180 181 183 184 186 187 190 192 193 195	<pre>&lt;40 Met     1 Ile Leu Val Irp     65 Phe Ala Asn</pre>	0> S: Gly Tyr Gly Ala 50 Tle Ile Leu	Val. Val. 35 Ala Ile Leu Ile Phe	Ser 20 Cys Cys Thr Leu Ala 100 His	Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe Gly	Ser Val Leu 55 Leu Leu Thr Lys Ser	Pro Ala 40 Pro Leu Ser Gly Gly 120 Ile	Cly 25 Leu Ser Cys Cys Ile 105 Leu	Ile Ile Cys Gly 90 Val	Met Ser Ile Ser 75 Leu Ile Asp	Asp Val Ala 60 Lys Arg Leu Gly	Phe Gly 45 Ala His Glu Gly Met 125 Leu	Tle 30 Leu Ala Ala Gly His 110	Leu Ala Arg Arg 95 Val	His Ser Ser Cys 80 Asn	
174 175 177 178 180 181 183 184 186 187 190 192 193 195 196	<400 Met 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0> S: Gly Tyr Gly Ala 50 Tle Ile Leu Arg	Val. Val. 35 Ala Ile Leu Ile Phe 115	Ser 20 Cys Cys Thr Leu Ala 100 His	2 Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe Gly Phe	Ser Val Leu 55 Leu Thr Lys Ser 135	Ala 40 Pro Leu Ser Gly 120	Gly 25 Leu Ser Cys Cys Ile 105 Leu His	IO Trp Ile Ile Cys Gly 90 Val Leu	Met Ser Ile Ser 75 Leu Ile Asp	Asp Val Ala 60 Lys Arg Leu Gly Leu 140	Phe Gly 45 Ala His Glu Gly Met 125 Leu	Ile 30 Leu Ala Ala Gly His 110 Thr	Leu Ala Arg Arg 95 Val	His Ser Ser Cys 80 Asn Glu Asn	
174 175 177 178 180 181 183 184 186 187 190 192 193 195 196	<400 Met 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0> S: Gly Tyr Gly Ala 50 Tle Ile Leu Arg	Val. Val. 35 Ala Ile Leu Ile Phe 115	Ser 20 Cys Cys Thr Leu Ala 100 His	2 Thr 5 Pro Cys Trp Cys Val 85 Ala	Ser Arg Leu Phe Val 70 Phe Gly Phe	Ser Val Leu 55 Leu Thr Lys Ser 135	Ala 40 Pro Leu Ser Gly 120	Gly 25 Leu Ser Cys Cys Ile 105 Leu His	IO Trp Ile Ile Cys Gly 90 Val Leu	Met Ser Ile Ser 75 Leu Ile Asp Pro	Asp Val Ala 60 Lys Arg Leu Gly Leu 140 Thr	Phe Gly 45 Ala His Glu Gly Met 125 Leu	Ile 30 Leu Ala Ala Gly His 110 Thr	Leu Ala Arg Arg 95 Val	His Ser Ser Cys 80 Asn Glu Asn Tyr	
174 175 177 178 180 181 183 184 186 187 190 192 193 195 196 198 199 201	<400 Met. 1 Ilee Leu Val Irp 65 Phe Ala Asin Leu Ilee 145	0> S: Gly Tyr Gly Alaa 500 Tle Ile Leu Arg 130 Glú	EQUELUCE Val. Val. 35 Ala Ile Leu Ile Phe 115 Ala Ala	NCE: Trp Ser 20 Cys Cys Thr Leu Ala 100 His Lys	2 Thr 5 Pro Cys Trp Cys Val 85 Ala Asn	Ser Arg Leu Phe Val 70 Phe Gly Phe Phe Trp	Ser Val Leu 55 Leu Leu Thr Lys Ser 135	Ala 40 Pro Leu Ser Gly 110 Ileu Tyr	Gly 25 Leu Ser Cys Cys Ile 105 Leu His	IO Trp Ile Ile Cys Gly 90 Val Leu Phe	Met Ser Ile Ser 75 Leu Ile Asp Pro	Asp Val Ala 60 Lys Arg Leu Gly Leu 140	Phe Gly 45 Ala His Glu Gly Met 125 Leu	Tle 30 Leu Ala Ala Gly Hiss 110 Thr	Leu Ala Arg 95 Val Cys Lys	His Ser Ser Cys 80 Asn Glu Asn Tyr	
174 175 177 178 180 181 183 184 186 187 190 192 193 195 196 198 199 201	<400 Met. 1 Ilee Leu Val Irp 65 Phe Ala Asin Leu Ilee 145	0> S: Gly Tyr Gly Alaa 500 Tle Ile Leu Arg 130 Glú	EQUELUCE Val. Val. 35 Ala Ile Leu Ile Phe 115 Ala Ala	NCE: Trp Ser 20 Cys Cys Thr Leu Ala 100 His Lys	2 Thr 5 Pro Cys Trp Cys Val 85 Ala Asn	Ser Arg Leu Phe Val 70 Phe Gly Phe Phe Trp	Ser Val Leu 55 Leu Leu Thr Lys Ser 135	Ala 40 Pro Leu Ser Gly 110 Ileu Tyr	Gly 25 Leu Ser Cys Cys Ile 105 Leu His	10 Trp fle Leu Phe Leu Thr	Met Ser Ile Ser 75 Leu Ile Asp Pro	Asp Val Ala 60 Lys Arg Leu Gly Leu 140	Phe Gly 45 Ala His Glu Gly Met 125 Leu	Tle 30 Leu Ala Ala Gly Hiss 110 Thr	Leu Ala Arg 95 Val. Cys Lys Ser Leu	His Ser Ser Cys 80 Asn Glu Asn Tyr Val. 160 Phe	
174 175 177 178 180 181 184 186 187 199 190 192 193 195 196 198 199 201 202 204	<400 Met. 1 Ile Leu Val Irp 65 Phe Ala Asm Leu Ile 145 Phe	0> S: Gly Tyr Gly Ala 500 rle Leu Lle Arg 130 Gli Asp	EQUENT ILE  Val.  Val.  35 Ala  ILE  LEU  ILE  Phe 115 Ala  Ala  Asp	NCE: Trp Ser 20 Cys Cys Thr Leu Ala 100 His Lys	2 Thr 5 Pro Cys Trp Cys Val 85 Ala Asn Ser Glu Val	Ser Arg Leu Phe Val 70 Phe Gly Phe Trp 150 Ser	Ser Val Leu 55 Leu Thr Lys Ser 135 11e	Pro Ala 40 Pro Leu Ser Gly 120 11e Tyr Asn	Gly 25 Leu Ser Cys Cys Ilee 105 Leu His Gly Gln	10 Trp  Ile  Ile  Cys  Gly  90  Val  Leu  Phe  Leu  Thr  170	Met Ser Ile Ser 75 Leu Ile Asp Pro Ala 155 Leu	Asp Val. Ala 600 Lys Arg Leu Gl.y Leu 140 Thr	Phe Gly 45 Ala His Glu Gly Met 125 Leu Pro	The 30 Leu Alaa Alaa Gly His 110 Thr. Lys Leu Ser	Arg Arg 95 Val Cys Leu 175	His Ser Ser Cys 80 Asn Glu Asn Tyr Val 160 Phe	
174 175 177 178 180 181 184 186 187 199 190 192 193 195 196 198 199 201 202 204	<400 Met. 1 Ile Leu Val Irp 65 Phe Ala Asm Leu Ile 145 Phe	0> S: Gly Tyr Gly Ala 500 rle Leu Lle Arg 130 Gli Asp	EQUENT ILE  Val.  Val.  35 Ala  ILE  LEU  ILE  Phe 115 Ala  Ala  Asp	NCE: Trp Ser 20 Cys Cys Thr Leu Ala 100 His Lys	2 Thr 5 Pro Cys Trp Cys Val 85 Ala Asn Ser Glu Val	Ser Arg Leu Phe Val 70 Phe Gly Phe Trp 150 Ser	Ser Val Leu 55 Leu Thr Lys Ser 135 11e	Pro Ala 40 Pro Leu Ser Gly 120 11e Tyr Asn	Gly 25 Leu Ser Cys Cys Ilee 105 Leu His Gly Gln	10 Trp  Ile  Ile  Cys  Gly  90  Val  Leu  Phe  Leu  Thr  170	Met Ser Ile Ser 75 Leu Ile Asp Pro Ala 155 Leu	Asp Val. Ala 600 Lys Arg Leu Gl.y Leu 140 Thr	Phe Gly 45 Ala His Glu Gly Met 125 Leu Pro	The 30 Leu Alaa Alaa Gly His 110 Thr. Lys Leu Ser	Arg Arg 95 Val Cys Leu 175	His Ser Ser Cys 80 Asn Glu Asn Tyr Val. 160 Phe	

RAW SEQUENCE LISTING DATE: 11/29/2000 PATENT APPLICATION: US/09/713,098 TIME: 09:05:34

Input Set : A:\1051Q.app
Output Set: N:\CRF3\11292000\1713098.raw

```
185
                 180
210 Val Leu Ser Val Leu Tyr Gln Met Ala Thr Thr Thr Glu Val Leu Ser 211 200 205
213 Ser Leu Gly Gln Lys Leu Leu Ala Phe Ala Gly Leu Ser Leu Val Leu 214 210 215 220
216 Leu Gly Thr Gly Leu Phe Met Lys Arg Phe Leu Gly Pro Cys Gly Trp 217 225 230 235 240
219 Lys Tyr Glu Asn Ile Tyr Ile Thr Arg Gln Phe Val Gln Phe Asp Glu
220 245 250 255
222 Arg Glu Arg His Gln Gln Arg Pro Cys Val Leu Pro Leu Asn Lys Glu
223 260 265 270
225 Glu Arg Arg Lys Tyr Val 1le Tle Pro Thr Phe Trp Pro Thr Pro Lys 226 275 280 285
228 Glu Arg Lys Asn Leu Gly Leu Phe Phe Leu Pro Ile Leu Ile His Leu 229 290 295
231 Cys Ile Trp Val Leu Phe Ala Ala Val Asp Tyr Leu Leu Tyr Arg Leu 232 305 310 315 320
234 Ile Phe Ser Val Ser Lys Gln Phe Gln Ser Leu Pro Gly Phe Glu Val
235 325 330 335
237 His Leu Lys Leu His Gly Glu Lys Gln Gly Thr Gln Asp Ile Ile His 238 340 345 350
240 Asp Ser Ser Phe Asn Ile Ser Val Phe Giu Pro Asn Cys Ile Pro Lys 355 360 365
243 Pro Lys Phe Leu Leu Ser Glu Thr Trp Val Pro Leu Ser Val Ile Leu 244 370 375 380
246 Leu Ile Leu Val Met Leu Gly Leu Leu Ser Ser Ile Leu Met Gln Leu 247 385 390 395 400
249 Lys Ile Leu Val Ser Ala Ser Phe Tyr Pro Ser Val Glu Arg Lys Arg
       405 410 415
 252 Ile Gln Tyr Leu His Ala Lys Leu Leu Lys Lys Arg Ser Lys Gln Pro
253 420 425 430
255 Leu Gly Glu Val Lys Arg Arg Leu Ser Leu Tyr Leu Thr Lys Ile His
256 435 440 445
 258 Phe Trp Leu Pro Val Leu Lys Met Ile Arg Lys Lys Gln Met Asp Met 259 450 455 460
 261 Ala Ser Ala Asp Lys Ser
 262 465
 265 <210> SEQ ID NO: 3
 266 <211> LENGTH: 1410
 267 <212> TYPE: DNA
 268 <213> ORGANISM: Artificial Sequence
 270 <220> FEATURE:
 271 <223> OTHER INFORMATION: Description of Artificial Sequence:reverse
 272 translation
 274 <220> FEATURE:
 275 <221> NAME/KEY: misc_feature
 276 <222> LOCATION: (1)..(1410)
 277 <223> OTHER INFORMATION: n may be a, c, g, or t
 279 <400> SEQUENCE: 3
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RAW SEQUENCE LISTING DATE: 11/29/2000 PATENT APPLICATION: US/09/713,098 TIME: 09:05:34

Input Set : A:\1051Q.app

Output Set: N:\CRF3\11292000\1713098.raw

```
W--> 280 atgggnatht ggacnwsngg nacngayath ttyytnwsny tntgggarat htaygtnwsn 60
W--> 282 ccnmgnwsnc enggntggat ggayttyath carcayytng gngtntgytg yytngtngcn 120
W--> 284 ytnathwsng tnggnytnyt nwsngtngcn gentgytggt tyytneenws nathathgen 180
W--> 286 gcngcngcnw sntggathat hacntgygtn ytnytntgyt gywsnaarca ygcnmgntgy 240
W--> 288 ttyathytny tngtnttyyt nwsntgyggn ytnmgngarg gnmgnaaygc nytnathgcn 300
W--> 290 gcnggnacng gnathgtnat hytnggncay gtngaraaya thttycayaa yttyaarggn 360
W--> 292 ytnytngayg gnatgaentg yaayytnmgn genaarwsnt tywsnathea yttyeenytn 420
W--> 294 ytnaaraart ayathgargc nathcartgg athtayggny tngcnacncc nytnwsngtn 480
W--> 296 ttygaygayy tngtnwsntg gaaycaracn ytngcngtnw snytnttyws nccnwsncay 540
W--> 298 gtnytngarg cncarytnaa ygaywsnaar ggngargtny tnwsngtnyt ntaycaratg 600
W--> 300 gcnacnacna engargtnyt nwsnwsnytn ggncaraary tnytngentt ygenggnytn 660
W--> 302 wsnytngtny tnytnggnac nggnytntty atgaarmgnt tyytnggncc ntgyggntgg 720
W--> 304 aartaygara ayathtayat hacnmgncar ttygtncart tygaygarmg ngarmgncay 780
W--> 306 carcarmgnc cntgygtnyt nccnytnaay aargargarm gnmgnaarta ygtnathath 840
W--> 308 consenttyt ggconsence naargarmgn aaraayytng gnytnttytt yytnoonath 900
W--> 310 ytnathcayy tntgyathtg ggtnytntty gengengtng aytayytnyt ntaymgnytn 960
W--> 312 athttywsng tnwsnaarca rttycarwsn ytnccnggnt tygargtnca yytnaarytn 1020
W--> 314 cayggngara arcarggnac ncargayath athcaygayw snwsnttyaa yathwsngtn 1080
W--> 316 ttygarcona aytgyathoo naarconaar ttyytnytnw sngaraontg ggtnoonytn 1140
W--> 318 wsngtnathy tnytnathyt ngtnatgytn ggnytnytnw snwsnathyt natgcarytn 1200
W--> 320 aarathytng tnwsngcnws nttytayccn wsngtngarm gnaarmgnat hcartayytn 1260
W--> 322 caygonaary tnytnaaraa rmgnwsnaar carconytng gngargtnaa rmgnmgnytn 1320
W--> 324 wsnytntayy tnacnaarat heayttytgg ytneengtny tnaaratgat hmgnaaraar 1380
W--> 326 caratggaya tggcnwsngc ngayaarwsn
     329 <210> SEQ 1D NO: 4
     330 <211> LENGTH: 942
     331 <212> TYPE: DNA
     332 <213> ORGANISM: primate
     334 <220> FEATURE:
     335 <221> NAME/KEY: CDS
     336 <222> LOCATION: (1)..(939)
     338 <220> FEATURE:
     339 <221> NAME/KEY: mat_peptide
     340 <222> LOCATION: (64)..(939)
     342 <400> SEQUENCE: 4
     343 aty gcc tta cca gtg ace gcc tty ctc etg ccg cta gcc ttg ctc
     344 Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu
                                -15
                                                    -10
     345 -20
     347 cac goo goo agg cog gat tac aag gao gat gac gac aag atc gat ctg
     348 His Ala Ala Arg Pro Asp Tyr Lys Asp Asp Asp Lys Ile Asp Leu
                                                                  1.0
                          -1 1
     351 age aaa tge agg ace gtg geg gge eee gtg ggg gga tee etg agt gtg
     352 Ser Lys Cys Arg Thr Val Ala Gly Pro Val Gly Gly Ser Leu Ser Val
                                         20
                    15
     355 cag tgt ecc tat gag aag gaa cac agg acc etc aac aaa tac tgg tgc
     356 Gln Cys Pro Tyr Glu Lys Glu His Arg Thr Leu Asn Lys Tyr Trp Cys
                                      35
                  30
     357
     359 aga cca cca cag att tto cta tgt gac aag att gtg gag acc aaa ggg
                                                                           240
     360 Arg Pro Pro Gln Ile Phe Leu Cys Asp Lys Ile Val Glu Thr Lys Gly
```

## PYI:

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.



PATENT APPLICATION: US/09/713,098

DAIE: 11/29/2000 PIME: 09:05:35

Input Set : A:\1051Q.app

Output Set: N:\CRF3\11292000\1713098.raw

```
L:12\ \text{M}:270\ \text{C}: Current Application Number differs, Replaced Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:280 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
L:280 M:341 W: (46) "n" or "Xaa" used, for SEQ 1D#:3
L:284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:286 M:341 W: (46) "n" or "Xaa" used, for SEQ 1D#:3
L:288 M:341 W: (46) "n" or "Xaa" used, for SEQ 1D#:3
L:290 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
1:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:296 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
L:298 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
L:300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:304 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
 L:306 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:310 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:312 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:314 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
 L:316 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
 L:318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:322 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
 L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
 L:326 M:341 W: (46) "n" or "Xaa" used, for SEO ID#:3
 L:619 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:621 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:625 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:629 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:631 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:633 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:635 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:637 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:641 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:643 M:341 W: (46) "n" or "Xaa" used, for SEQ TD#:8
  L:645 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:649 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
  L:667 M:341 W: (46) "n" or "xaa" used, for SEQ ID#:9
L:669 M:341 W: (46) "n" or "xaa" used, for SEQ ID#:9
   L:671 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
   L:673 M:341 W: (46) "n" or "xaa" used, for SEQ TD#:9
   L:675 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
   L:677 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/713,098

DATE: 11/29/2000 TIME: 09:05:35

Input Set : A:\1051Q.app
Output Set: N:\CRF3\11292000\1713098.raw

L:679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:681 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9